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Chains. Both sexes adorned themselves with neck chains; the men also wore ornaments on their hip cord. Children and pregnant women had the most chain-ornaments hung on them. Our beads were also requested primarily for the children.

The Bakaïrí, with great pains, made very pretty neck chains, trophies of the kind of work that was quite popular among the other tribes, which we also found among the Suyá in 1884; cf. the Kamayurá of Figure 14. These are rectangular, slightly convex pieces which are cut from a convolution of the shell of pïu, Orthalicus melanostomus (Prof. v. Martens), two to three centimeters long, one

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Fig. 14. Kamayurá with shell chain.

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to one and a half centimeters wide, almost pure white, and known as pïu orãli. They overlap on the long side, like roof tiles, and are generally pierced at the top and bottom, but fastened only at the top with small threads to the neck cord. Especially thick shells were

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chosen, broken, and ground on stones. They were pierced with the tooth of the dogfish or with the twirling stick, at the end of which was lashed a triangular splinter of stone; in this way a conical hole was formed.

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*171 301 ●321 Another type consists of small disks or smooth beads only one millimeter thick and three to five millimeters in diameter. They are evenly circular, with a dull, whitish-gray to bluish sheen. The little pieces of the broken shell were bitten off with the teeth, made approximately even in size, and were pierced like the squares. The tiny little things are so evenly ground /183/ that on the string they form a thin, flexible coil. [824] They are usually alternated with similarly shaped tucum beads (Bactris), which are bitten out of the shell of the palm nut. The tucum beads are likewise pierced with the tooth of the dogfish. For these and the small shell disks, the evenness is achieved by stringing the beads and, not grinding the roll on a stone, but rubbing and smoothing it between two pot shards. The shell beads are a very natural product, if colored or shiny pieces of shell are saved at all; they are strung on a cord, since they are hard to fasten otherwise, and they are matched up, which is most easily accomplished if one simply grinds them all around. In this way the most diverse primitive peoples, with their respective shell material, have arrived at beads that look so much alike as to be mistaken for one another. The beads, however, also have all the characteristics required to circulate from tribe to tribe wherever intercourse takes place and provide the best opportunity to become acquainted with the extent of the intercourse, which some regard as unlimited. The Bakaïrí of the Batovy, more than those of the Kulisehu, are "zóto," lords, of the shell chains.

*171 301 The tucum beads are made chiefly by the Nahuquá; the latter had as shell beads the rose-colored little spindle pieces of Bulimus in particular, whose "zóto" they were, a single one of which interrupted the coil of the nut beads at short intervals. The Nahuquá were distinguished by a great wealth of chains, especially of plant material, which, moreover, also played a more important role among the Bakaïrí than among the tribes living downstream. The Bakaïrí of Maigéri greatly prized [824] "grass beads," kanakúni, which Antonio explained were fruits of a tall, rare grass growing along lagoons, each stalk of which produces only a few.

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*171 301 824 We found pieces of stalks, pieces of bark, seed kernels, and berries of the most diverse kinds: nut beads from the large and the small tucum palm, fruits of a climbing plant, of a campo tree takipé, of a plant called (Bakaïrí) udayáki, red and black seeds of Papilionaceae, of mamona-Ricinus, tonka beans (Dipteryx odorata), among the Auetö gourd seeds and almeisca kernels, and even a small, bottle-shaped gourd seven centimeters long.

B *171 301 T 171 301 B T [321] Among the Yaulapiti, Trumaí, and, coming from them, among their neighbors, stone chains were frequent: pierced disks and cylinders which the Nahuquá imitated in the amber-like jatobá resin and in clay. It was the diorite of the stone axes and throwing-stick arrows /Wurfholz-Pfeile/; it was pierced with the stone chip fastened to the twirling stick and the addition of sand. Small, pear-shaped stones, such as go with the darts /Wurfpfeilen/, are popularly hung on children's chains by the Mehinakú and Auetö.

Thus there were distinct differences in the material, which were probably, as is certainly the case with the stones, locally conditioned. All chains made of white shell pieces went back to the Bakaïrí, all those of red to the Nahuquá, all those made of stones to the Trumaí or Yaulapiti.

B *171 301 237 T 171 301 237 /184/ Animal material was found everywhere. There were horn beads and bone beads, the latter also in the form of little rods; they were sometimes strung on individually, sometimes joined for whole chains, especially monkey teeth and jaguar teeth. Cf. the illustration of the Auetö chief, page 90. Among the Nahuquá we procured a chain with jaguar teeth and small, colored feathers. The Trumaí prized capybara teeth. Among the Mehinakú in particular there was an abundance of children's ornaments, which were hung in bunches on infants; besides the others, monkey teeth in particular, teeth of the jaguatirica (Felis mitis), fish vertebrae, bones of the bagadú fish, once a huge, black beetle-horn. Also claws or hoofs of the tapir (Kamayurá), jaguar, and deer.

/204 cont./

*171 412 no triangular arrowheads of stone, no stone knives, no celts, no stone saws, no scrapers, etc. Among the Bakaïrí I struck two pieces of sandstone containing iron together so that sparks shot out and to my amazement saw that they were not familiar with the phenomenon. They were Neolithic people who could have learned many a useful craft secret from the Paleolithic fraternity.

000 I do not venture to say that the Schingú Indians lived in the *[171] "Tooth Age," the "Shell Age," or "Wood Age," although, as a ●321 matter of fact, the great majority of weapons, tools, implements, 322 and ornaments are put together out of teeth, shells, and wood, 372 and they produced fire by rubbing sticks. I do not venture to say this even with regard to the eastern Brazilian forest tribes, among whom the stone ax must have played a wholly secondary role, since they neither carried on agriculture nor built canoes or solid huts. Obviously, however, it is only the transference of ideas gained elsewhere -- and in connection with excavation, in a very understandable way -- if, in order to identify the cultural level, one selects from among the natural materials available for tools and weapons that which has been worked and used least of all. The culture of the old Brazilian hunting tribes living in the forest will be very much misunderstood if, with the classification of "Stone Age" peoples, /205/ the image of people of the Ice Age is conjured up. We impede our study of the spatial distribution of culture circles and man's dependence on his place of residence; every tribe learned to utilize the material of its environment, upon which it was dependent, and thus has come into the possession of methods which a neighborhood only sparsely supplied with the same materials would not have found, but which it learns to use and exercise only for its own advancement. Bastian says, "it appears to be conditioned by the geographical environment whether, beside the Stone Age preceding the metals, there must be put a Wood Age (as in the Brazilian alluviums, for example), a Bone Age (in the case of livestock on barren plains or hunting in such areas), or a Shell Age (as occasionally on coral islands)." I therefore prefer to

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*171 The tinder is a light brown, fine meshed bast tissue which is
392 furnished best by the young uakumá palm (a Cocos species). In
[824] the campo, tinder from the guarirobá palm (Cocos oleracea) or of dry grass and leaves also helps out. Its purpose is to furnish the flame with which one transfers the fire to the twigs. Ehrenreich reports from the Karayá /Caraja/, Im Thurn from the Warrau of Guiana, that their wood catches fire so easily that it does not need tinder; "it in itself furnishes the tinder."

As is seen, it is not necessary to have a hard and a soft wood for rubbing fire with the "drill" /Bohrer, borer, drill, auger/. The Schingú Indians always take only one kind; the Karayá drill bamboo in urucú.

ooo We find the movement of twirling very difficult; indeed, we are scarcely acquainted with it in everyday life because our drills terminate in a screw, and we do not use it at all for drilling, but for mixing, for example, in the kitchen, to mix yeast or eggs with milk, or in connection with the preparation of a cocktail.

*171 It is easy to understand how the drilling and twirling of the natives
174 originated. At first holes were made with a pointed tooth or bone.
412 /225/ When the object was very resistant, a turning pressure against and into it was tried, and this gradually and naturally developed into the twirl-drilling, if only one worked steadily and evenly so as not to split the object, clamped it down securely so as not to lose the point drilled on, and thus had both hands to
● [321] work with. This twirl-drilling is practiced by the Indian with a tooth or particle of stone fastened to a little stick (cf. p. 201) for all piercing of shells, bone, stone, armadillo carapace, and hard wood. One very often sees him occupied with it, using his feet
ooo as a brace. We are now, however, confronted with a riddle if we wish to explain how this fire-drilling with two pieces of wood could have originated. How did people happen to drill wood with wood if they were not purposely setting out to "invent fire?"

It has been said in all seriousness that in grinding or drilling tools out of wood, bone, and stone, people found by experience that friction produces warmth, they observed that the warmth increases the harder the rubbing, and they then tried to rub